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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/551,250

**Applicant(s)**

MOMOSE ET AL.

**Examiner**

Vincent R. Peren

**Art Unit**

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 September 2005.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-9 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 28 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/GS-08)  
Paper No(s)/Mail Date 9/28/2005 and 5/3/2007

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. Claims 1-9 are pending in this application, with claim 1 being independent.

***Priority***

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d), and receipt is acknowledged of the certified copy of the foreign application (JAPAN 2003-100569), which has been placed of record in the file.

***Drawings***

3. The drawings were received on September 28, 2005. These drawings are acceptable.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 1 and 5-9 are rejected under 35 U.S.C. 102(b) as being anticipated by MACHIDA ET AL. (US 2001/0026290, hereinafter MACHIDA).**
6. **Regarding claim 1**, MACHIDA discloses a display device (*display device 1*) of an electronic apparatus for setting a plurality of conditions for a process of the electronic apparatus through an input operation while displaying the conditions before the electronic apparatus performs the process in accordance with the conditions (*The operating device is constructed to have a display device 1 for displaying a setting frame to operate a setting menu, a frame for a processing operation, etc., an input device 3 for*

*operating a setting menu or instructing other operations while referring to the display content of the setting menu thus displayed or the like, and a menu operating controller 40 for controlling the menu operation using the above units; PARAGRAPH [0058].), the device comprising:*

7. *determining means (CPU 4; FIG. 2. FIG. 2 is a block diagram showing a hardware configuration used for the menu operating device shown in FIG. 1. The hardware control functions of the respective parts of the menu operating device and the software control functions such as menu display and operation based on the menu operating controller 40 are carried out by CPU 4; PARAGRAPH [0064].) for determining whether or not each of the conditions has not yet been set (The display controller 41 refers to menu data stored in a menu data storage unit 46 to create the setting frame corresponding to each setting menu, display frames for processing operations, etc. The menu data contain information on the setting item name (parameter name) of each setting menu, the hierarchical structure of the menu, the constructing method of each frame, and character data and image data required to create the setting frames, etc. The setting controller 42 sets parameters for setting items in each setting menu by referring to the parameter data stored in the parameter data storage unit 47 if occasion demands. Further, the setting controller 42 may make an instruction to the display controller 41 about a setting menu to be next operated and a setting frame to be next displayed on the basis of the result of setting parameters. The parameter data contain information on the initial values of the parameters or data of default values. However, these parameter data are not necessarily required to be referred to if the setting can be performed on the basis of only the parameter values input from the touch panel 3a (input device 3).; PARAGRAPHS [0061]-[0062].); and*

8. display control means for displaying notifying information indicating to what degree conditions remain to be set (*The menu operating controller 40 includes a display controller 41 for sequentially creating setting frames or other display frames (a processing start frame, a processing executing frame, a processing end frame, etc. as described later) and displaying these frames on the screen 10 of the display device 1, and a setting controller 42 for performing setting of parameters, etc. on the basis of the parameter values input from the touch panel 3a serving as the input device 3 and other operating instruction information; PARAGRAPH [0060]. In the operating method according to an aspect of the present invention, the operating device according to another aspect of the present invention and the image processing apparatus according to another aspect of the present invention, the setting on plural items is sequentially carried out in predetermined order, and the plural items are displayed when one of plural setting frames is displayed, whereby an operator can obtain information as to the place at which the setting frame being displayed is located in the arrangement of the plural items to be sequentially set. Therefore, the operability can be enhanced; PARAGRAPH [0185]. In the operating method according to another aspect of the present invention and the operating device according to another aspect of the present invention, the items which have been already set, the items which are being set and the items which have not yet been set are displayed to be distinguishable from one another, so that these items can be discriminated from one another; PARAGRAPH [0186]).*
9. **Regarding claim 5** (depends on claim 1), MACHIDA discloses that, after items of the conditions are displayed, the notifying information is represented by switching a method of displaying each of the items of the conditions, depending on whether or not the item of the condition has already been set (*According to a second aspect of the*

*present invention, in the operating method of the first aspect, items which have been already set, items being set and items which have not yet been set are displayed so as to be distinguishable from one another; PARAGRAPH [0010]. FIGS. 4-8. Further, the second to fifth menu item buttons 116<sub>2</sub> to 116<sub>5</sub> other than the menu item button 116<sub>1</sub> being set have not been operated until this time, and thus they are the menu items corresponding to the setting menus on which any parameter has not yet been set. Therefore, as indicated by dotted lines of FIG. 4, the non-set menu item buttons 116<sub>2</sub> to 116<sub>5</sub> are displayed in a display style different from that of the menu item button 116<sub>1</sub> being set. Further, no parameter display window is provided in each of the menu item buttons 116<sub>2</sub> to 116<sub>5</sub>; PARAGRAPH [0090]. In the operating method according to another aspect of the present invention and the operating device according to another aspect of the present invention, the items which have been already set, the items which are being set and the items which have not yet been set are displayed to be distinguishable from one another, so that these items can be discriminated from one another PARAGRAPH [0186].).*

10. **Regarding claim 6** (depends on claim 5), MACHIDA discloses that performance of the process is started when the display control means uses the displaying method to display that all the items of the conditions have already been set (*When the setting of all the parameter values required to carry out the processing operation is completed for the setting menu of each layer contained in the hierarchical menu, the processing operation is started* according to the processing type and the operating condition which are specified on the basis of each set parameter value; PARAGRAPH [0005]. When the parameter setting is completed for all the setting items required to execute the processing operation, an instruction on the processing operation, for example, an instruction of indicating operating parameters or an instruction of starting execution of the processing

*operation is made to the processor through a processing operation instructing unit 43. The menu operating device thus constructed may be affixed to or contained as a part of the processor for executing the processing operation, which serves as a target to be subjected to the parameter setting based on the hierarchical menu; PARAGRAPH [0063]. FIG. 8.).*

11. **Regarding claim 7** (depends on claim 5), MACHIDA discloses that information for prompting an operation for starting performance of the process is provided when the display control means uses the displaying method to display that all the items of the conditions have already been set (FIG. 8. When the parameter setting is completed for all the setting items required to execute the processing operation, an instruction on the processing operation, for example, an instruction of indicating operating parameters or an instruction of starting execution of the processing operation is made to the processor through a processing operation instructing unit 43. The menu operating device thus constructed may be affixed to or contained as a part of the processor for executing the processing operation, which serves as a target to be subjected to the parameter setting based on the hierarchical menu; PARAGRAPH [0063]. After the four hierarchical setting menus of (1) the copy job type setting menu, (2) the sheet size setting menu, (3) the magnification setting menu and (4) the number-of-copies setting menu are sequentially operated along the hierarchical structure of the hierarchical menu by using the respective setting frames 11 to 14, the setting of the parameters for the processing type and the operating condition which are required to execute the copying operation is finished. Thereafter, the processing start frame is created and the frame to be displayed is shifted to the processing start frame; PARAGRAPH [0107].).
12. **Regarding claim 8** (depends on claim 1), MACHIDA discloses that the conditions are set through an input operation to be either one of a default content

and an arbitrary content (FIG. 19 is a flowchart showing a method of selecting set values or initial (default) values; PARAGRAPH [0054]. The setting controller 42 sets parameters for setting items in each setting menu by referring to the parameter data stored in the parameter data storage unit 47 if occasion demands. Further, the setting controller 42 may make an instruction to the display controller 41 about a setting menu to be next operated and a setting frame to be next displayed on the basis of the result of setting parameters. The parameter data contain information on the initial values of the parameters or data of default values. However, these parameter data are not necessarily required to be referred to if the setting can be performed on the basis of only the parameter values input from the touch panel 3a (input device 3); PARAGRAPH [0062].).

13. **Regarding claim 9** (depends on claim 1), MACHIDA discloses that a touch panel for inputting the conditions is provided on a display screen (A liquid crystal display or a CRT display is used as the display device 1, and the setting frame, etc. are displayed on the screen 10 of the display device 1. The input device 3 is equipped with a touch panel 3a which is mounted so as to face the screen 10 of the display device 1 as shown in FIG. 1. In addition to the touch panel 3a, a pointing device such as a mouse or the like or a keyboard or operating panel including ten keys and various instructing buttons may be used as the input device 3; PARAGRAPH [0059]).

**Claim Rejections - 35 USC § 103**

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.



The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

- a. Determining the scope and contents of the prior art;
- b. Ascertaining the differences between the prior art and the claims in issue;
- c. Resolving the level of ordinary skill in the pertinent art; and
- d. Evaluating evidence of secondary considerations for indicating obviousness or nonobviousness.

15. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over MACHIDA ET AL. (US 2001/0026290, hereinafter MACHIDA).

16. **Regarding claim 2** (depends on claim 1), MACHIDA discloses that the notifying information is the number of conditions which have not yet been set (*The hierarchical menu of this embodiment is used to set parameters of plural setting items on the processing type and operating condition of a copying operation which is a predetermined processing operation, and it is constructed by five setting menus of (1) a copy job type setting menu, (2) a sheet size setting menu, (3) a magnification setting menu, (4) a number-of-copies setting menu and (5) other setting menus. These setting menus constitute the hierarchical menu for sequentially setting the parameters for the respective setting items by the hierarchical structure which is constructed in order from (1) to (5). The setting menu (1) is used for the processing type, and the setting menus (2) to (5) are used to set the operation conditions. This hierarchical menu is not designed in such a tree structure that the operating flow of setting menus is branched; PARAGRAPHS [0081]-[0082]. In the hierarchical menu display area 115 is displayed a list of five menu item buttons 116<sub>1</sub> to 116<sub>5</sub> corresponding to the setting menus of the five layers which contain the type setting menu displayed in the setting menu display area 110 in the type setting frame 11. The setting item names "copy job type", "sheet size", "magnification", "number-of-copies" and "other settings" corresponding to the respective setting menus are displayed to indicate*

the association with the setting menus of the five layers on the menu item buttons 116<sub>1</sub> to 116<sub>5</sub>. These five menu item buttons 116<sub>1</sub> to 116<sub>5</sub> are arranged from the upper side to the lower side of the frame in this order. At this time, the menu item buttons 116<sub>1</sub> to 116<sub>5</sub> are displayed in such a listed arrangement that the setting menu corresponding to the menu item button 116<sub>1</sub> displayed at the uppermost position in the hierarchical menu display area 115 is set as the top-end type setting menu (the setting menu which is first operated) in the hierarchical structure of the hierarchical menu, and the menu item buttons 116<sub>1</sub> to 116<sub>5</sub> corresponding to the lower setting menus (the setting menus which are subsequently operated) are displayed in the hierarchical order downwardly from the menu item button 116<sub>1</sub>. The "copy job type" menu item button 116<sub>1</sub> located at the first place (top) out of the menu item buttons 116<sub>1</sub> to 116<sub>5</sub> is displayed in the setting menu display area 110 on the setting frame 11, and it is the menu item corresponding to the type setting menu under operation (whose parameter is currently being set). Therefore, the menu item button 116<sub>1</sub> is displayed so that the right end portion thereof is connected to the setting menu display area 110 adjacent to the right side of the menu item button 116<sub>1</sub> as if it is displayed as a tag of the setting menu display area 110; PARAGRAPHS [0085]-[0088]. Further, the second to fifth menu item buttons 116<sub>2</sub> to 116<sub>5</sub> other than the menu item button 116<sub>1</sub> being set have not been operated until this time, and thus they are the menu items corresponding to the setting menus on which any parameter has not yet been set. Therefore, as indicated by dotted lines of FIG. 4, the non-set menu item buttons 116<sub>2</sub> to 116<sub>5</sub> are displayed in a display style different from that of the menu item button 116<sub>1</sub> being set. Further, no parameter display window is provided in each of the menu item buttons 116<sub>2</sub> to 116<sub>5</sub>; PARAGRAPH [0090]. With respect to the display style of the hierarchical structure of the menu items, various display styles such as numbering of the menu items, linkage of the menu items with arrows, etc. may be used; PARAGRAPH [0181]. In the operating method

*according to an aspect of the present invention, the operating device according to another aspect of the present invention and the image processing apparatus according to another aspect of the present invention, the setting on plural items is sequentially carried out in predetermined order, and the plural items are displayed when one of plural setting frames is displayed, whereby an operator can obtain information as to the place at which the setting frame being displayed is located in the arrangement of the plural items to be sequentially set. Therefore, the operability can be enhanced;*  
PARAGRAPH [0185]).

17. MACHIDA may not explicitly disclose that a numeral indicating the number of conditions which have not yet been set is displayed; however, since all of the menu items are displayed, and since the non-set item buttons (e.g., 116<sub>2</sub> to 116<sub>5</sub> in Fig. 4) are displayed in a display style differently from the already set menu item buttons (e.g., 116<sub>1</sub> in Fig. 4), MACHIDA does disclose that the number of conditions which have not yet been set is displayed (in other words, for the given example, fig. 4, it is readily apparent by the display that four conditions have not been set).
18. Furthermore, MACHIDA explicitly teaches that the menu items may be numbered (PARAGRAPH [0181]). When numbering the menu items, it would have been obvious to one skilled in the art at the time of Applicant's invention, as one of only two possible menu item numbering schemes – either, (1) numbering in ascending order (counting up) or (2) numbering in descending order (counting own) - to number the menu items in descending order counting down to zero. Hence, when numbering in descending order counting down to zero, the menu item number of the menu item currently being set would therefor indicate the number of menu items remaining to be set, "whereby an operator can obtain information as to the place at which the setting frame being displayed is located in the arrangement of the plural items to be sequentially set" (PARAGRAPH [0185] of MACHIDA).

19. **Regarding claim 3** (depends on claim 2), MACHIDA discloses that performance of the process is started when the number of conditions which have not yet been set reaches 0 (*When the setting of all the parameter values required to carry out the processing operation is completed for the setting menu of each layer contained in the hierarchical menu, the processing operation is started according to the processing type and the operating condition which are specified on the basis of each set parameter value; PARAGRAPH [0005]. When the parameter setting is completed for all the setting items required to execute the processing operation, an instruction on the processing operation, for example, an instruction of indicating operating parameters or an instruction of starting execution of the processing operation is made to the processor through a processing operation instructing unit 43.* The menu operating device thus constructed may be affixed to or contained as a part of the processor for executing the processing operation, which serves as a target to be subjected to the parameter setting based on the hierarchical menu; PARAGRAPH [0063]. FIG. 8.), the number being displayed by the display control means (*The hierarchical menu of this embodiment is used to set parameters of plural setting items on the processing type and operating condition of a copying operation which is a predetermined processing operation, and it is constructed by five setting menus of (1) a copy job type setting menu, (2) a sheet size setting menu, (3) a magnification setting menu, (4) a number-of-copies setting menu and (5) other setting menus. These setting menus constitute the hierarchical menu for sequentially setting the parameters for the respective setting items by the hierarchical structure which is constructed in order from (1) to (5). The setting menu (1) is used for the processing type, and the setting menus (2) to (5) are used to set the operation conditions. This hierarchical menu is not designed in such a tree structure that the operating flow of setting menus is branched; PARAGRAPHS [0081]-[0082]. In the hierarchical menu display area 115 is displayed a list*

of five menu item buttons 116<sub>1</sub> to 116<sub>5</sub> corresponding to the setting menus of the five layers which contain the type setting menu displayed in the setting menu display area 110 in the type setting frame 11. The setting item names "copy job type", "sheet size", "magnification", "number-of-copies" and "other settings" corresponding to the respective setting menus are displayed to indicate the association with the setting menus of the five layers on the menu item buttons 116<sub>1</sub> to 116<sub>5</sub>. These five menu item buttons 116<sub>1</sub> to 116<sub>5</sub> are arranged from the upper side to the lower side of the frame in this order. At this time, the menu item buttons 116<sub>1</sub> to 116<sub>5</sub> are displayed in such a listed arrangement that the setting menu corresponding to the menu item button 116<sub>1</sub> displayed at the uppermost position in the hierarchical menu display area 115 is set as the top-end type setting menu (the setting menu which is first operated) in the hierarchical structure of the hierarchical menu, and the menu item buttons 116<sub>1</sub> to 116<sub>5</sub> corresponding to the lower setting menus (the setting menus which are subsequently operated) are displayed in the hierarchical order downwardly from the menu item button 116<sub>1</sub>. The "copy job type" menu item button 116<sub>1</sub> located at the first place (top) out of the menu item buttons 116<sub>1</sub> to 116<sub>5</sub> is displayed in the setting menu display area 110 on the setting frame 11, and it is the menu item corresponding to the type setting menu under operation (whose parameter is currently being set). Therefore, the menu item button 116<sub>1</sub> is displayed so that the right end portion thereof is connected to the setting menu display area 110 adjacent to the right side of the menu item button 116<sub>1</sub> as if it is displayed as a tag of the setting menu display area 110; PARAGRAPHS [0085]-[0088]. Further, the second to fifth menu item buttons 116<sub>2</sub> to 116<sub>5</sub> other than the menu item button 116<sub>1</sub> being set have not been operated until this time, and thus they are the menu items corresponding to the setting menus on which any parameter has not yet been set. Therefore, as indicated by dotted lines of FIG. 4, the non-set menu item buttons 116<sub>2</sub> to 116<sub>5</sub> are displayed in a display style different from that of the menu item

button 116<sub>1</sub> being set. Further, no parameter display window is provided in each of the menu item buttons 116<sub>2</sub> to 116<sub>5</sub>; PARAGRAPH [0090]. With respect to the display style of the hierarchical structure of the menu items, various display styles such as numbering of the menu items, linkage of the menu items with arrows, etc. may be used; PARAGRAPH [0181]. In the operating method according to an aspect of the present invention, the operating device according to another aspect of the present invention and the image processing apparatus according to another aspect of the present invention, the setting on plural items is sequentially carried out in predetermined order, and the plural items are displayed when one of plural setting frames is displayed, whereby an operator can obtain information as to the place at which the setting frame being displayed is located in the arrangement of the plural items to be sequentially set. Therefore, the operability can be enhanced; PARAGRAPH [0185]).

20. MACHIDA may not explicitly disclose that a numeral indicating the number of conditions which have not yet been set is displayed; however, since all of the menu items are displayed, and since the non-set item buttons (e.g., 116<sub>2</sub> to 116<sub>5</sub> in Fig. 4) are displayed in a display style differently from the already set menu item buttons (e.g., 116<sub>1</sub> in Fig. 4), MACHIDA does disclose that the number of conditions which have not yet been set is displayed (in other words, for the given example, fig. 4, it is readily apparent by the display that four conditions have not been set).
21. Furthermore, MACHIDA explicitly teaches that the menu items may be numbered (PARAGRAPH [0181]), and, in the case wherein the menu items are numbered, it would have been obvious to one skilled in the art at the time of Applicant's invention, as one of only two possible menu item numbering schemes – either, (1) numbering in ascending order (counting up) or (2) numbering in descending order (counting down) - to number the menu items in descending order counting down to zero. Hence,

when numbering in descending order counting down to zero, the menu item number of the menu item currently being set would therefor indicate the number of menu items remaining to be set, "whereby an operator can obtain information as to the place at which the setting frame being displayed is located in the arrangement of the plural items to be sequentially set" (PARAGRAPH [0185] of MACHIDA).

22. **Regarding claim 4** (depends on claim 2), MACHIDA discloses that information for prompting an operation for starting performance of the process is provided when the number of conditions which have not yet been set reaches 0 (FIG. 8. When the parameter setting is completed for all the setting items required to execute the processing operation, an instruction on the processing operation, for example, an instruction of indicating operating parameters or an instruction of starting execution of the processing operation is made to the processor through a processing operation instructing unit 43. The menu operating device thus constructed may be affixed to or contained as a part of the processor for executing the processing operation, which serves as a target to be subjected to the parameter setting based on the hierarchical menu; PARAGRAPH [0063]. After the four hierarchical setting menus of (1) the copy job type setting menu, (2) the sheet size setting menu, (3) the magnification setting menu and (4) the number-of-copies setting menu are sequentially operated along the hierarchical structure of the hierarchical menu by using the respective setting frames 11 to 14, the setting of the parameters for the processing type and the operating condition which are required to execute the copying operation is finished. Thereafter, the processing start frame is created and the frame to be displayed is shifted to the processing start frame; PARAGRAPH [0107].), the number being displayed by the display control means(The hierarchical menu of this embodiment is used to set parameters of plural setting items on the processing type and operating condition of a copying operation which is a predetermined processing operation, and it is

constructed by five setting menus of (1) a copy job type setting menu, (2) a sheet size setting menu, (3) a magnification setting menu, (4) a number-of-copies setting menu and (5) other setting menus. These setting menus constitute the hierarchical menu for sequentially setting the parameters for the respective setting items by the hierarchical structure which is constructed in order from (1) to (5). The setting menu (1) is used for the processing type, and the setting menus (2) to (5) are used to set the operation conditions. This hierarchical menu is not designed in such a tree structure that the operating flow of setting menus is branched; PARAGRAPHS [0081]-[0082]. In the hierarchical menu display area 115 is displayed a list of five menu item buttons 116<sub>1</sub> to 116<sub>5</sub> corresponding to the setting menus of the five layers which contain the type setting menu displayed in the setting menu display area 110 in the type setting frame 11. The setting item names "copy job type", "sheet size", "magnification", "number-of-copies" and "other settings" corresponding to the respective setting menus are displayed to indicate the association with the setting menus of the five layers on the menu item buttons 116<sub>1</sub> to 116<sub>5</sub>. These five menu item buttons 116<sub>1</sub> to 116<sub>5</sub> are arranged from the upper side to the lower side of the frame in this order. At this time, the menu item buttons 116<sub>1</sub> to 116<sub>5</sub> are displayed in such a listed arrangement that the setting menu corresponding to the menu item button 116<sub>1</sub> displayed at the uppermost position in the hierarchical menu display area 115 is set as the top-end type setting menu (the setting menu which is first operated) in the hierarchical structure of the hierarchical menu, and the menu item buttons 116<sub>1</sub> to 116<sub>5</sub> corresponding to the lower setting menus (the setting menus which are subsequently operated) are displayed in the hierarchical order downwardly from the menu item button 116<sub>1</sub>. The "copy job type" menu item button 116<sub>1</sub> located at the first place (top) out of the menu item buttons 116<sub>1</sub> to 116<sub>5</sub> is displayed in the setting menu display area 110 on the setting frame 11, and it is the menu item corresponding to the type setting menu under operation (whose parameter is currently being set).



Therefore, the menu item button 116<sub>1</sub> is displayed so that the right end portion thereof is connected to the setting menu display area 110 adjacent to the right side of the menu item button 116<sub>1</sub> as if it is displayed as a tag of the setting menu display area 110; PARAGRAPHS [0085]-[0088]. Further, the second to fifth menu item buttons 116<sub>2</sub> to 116<sub>5</sub> other than the menu item button 116<sub>1</sub> being set have not been operated until this time, and thus they are the menu items corresponding to the setting menus on which any parameter has not yet been set. Therefore, as indicated by dotted lines of FIG. 4, the non-set menu item buttons 116<sub>2</sub> to 116<sub>5</sub> are displayed in a display style different from that of the menu item button 116<sub>1</sub> being set. Further, no parameter display window is provided in each of the menu item buttons 116<sub>2</sub> to 116<sub>5</sub>; PARAGRAPH [0090]. With respect to the display style of the hierarchical structure of the menu items, various display styles such as numbering of the menu items, linkage of the menu items with arrows, etc. may be used; PARAGRAPH [0181]. In the operating method according to an aspect of the present invention, the operating device according to another aspect of the present invention and the image processing apparatus according to another aspect of the present invention, the setting on plural items is sequentially carried out in predetermined order, and the plural items are displayed when one of plural setting frames is displayed, whereby an operator can obtain information as to the place at which the setting frame being displayed is located in the arrangement of the plural items to be sequentially set. Therefore, the operability can be enhanced; PARAGRAPH [0185]).

23. MACHIDA may not explicitly disclose that a numeral indicating the number of conditions which have not yet been set is displayed; however, since all of the menu items are displayed, and since the non-set item buttons (e.g., 116<sub>2</sub> to 116<sub>5</sub> in Fig. 4) are displayed in a display style differently from the already set menu item buttons (e.g., 116<sub>1</sub> in Fig. 4), MACHIDA does disclose that the number of

conditions which have not yet been set is displayed (in other words, for the given example, fig. 4, it is readily apparent by the display that four conditions have not been set).

24. Furthermore, MACHIDA explicitly teaches that the menu items may be numbered (PARAGRAPH [0181]), and, when numbering the menu items, it would have been obvious to one skilled in the art at the time of Applicant's invention, as one of only two possible menu item numbering schemes – either, (1) numbering in ascending order (counting up) or (2) numbering in descending order (counting down) - to number the menu items in descending order counting down to zero. Hence, when numbering in descending order counting down to zero, the menu item number of the menu item currently being set would therefor indicate the number of menu items remaining to be set, "whereby an operator can obtain information as to the place at which the setting frame being displayed is located in the arrangement of the plural items to be sequentially set" (PARAGRAPH [0185] of MACHIDA).

#### ***Contact Information***

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